

1                   **ABSTRACT OF THE DISCLOSURE**  
2  
3

4                 The steel drill string attached to a drilling bit during  
5                 typical rotary drilling operations used to drill oil and gas  
6                 wells is used for a second purpose as the casing that is  
7                 cemented in place during typical oil and gas well  
8                 completions. Methods of operation are described that provide  
9                 for the efficient installation of a cemented steel cased well  
10                wherein the drill string and the drill bit are cemented into  
11                place during one single drilling pass down into the earth.  
12                Methods are provided to selectively cause a drilling  
13                trajectory to change during drilling with casing. A  
14                one-way cement valve is installed near the drill bit of the  
15                drill string that allows the cement to set up efficiently  
16                under ambient hydrostatic conditions while the drill string  
17                and drill bit are cemented into place during one single  
18                drilling pass into the earth.

19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34

**ABSTRACT**  
**For DwC App. #2 Only**  
**11/25/2003**